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Proposed Maximum Residue Limit PMRL2018-22

Flubendiamide

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Under the authority of the *Pest Control Products Act*, Health Canada's Pest Management Regulatory Agency (PMRA) is proposing to establish maximum residue limits (MRLs) for flubendiamide on various commodities to permit the import and sale of foods containing such residues.

Flubendiamide is an insecticide not currently registered for use in Canada.

The PMRA must determine the quantity of residues that are likely to remain in or on the imported food commodities when flubendiamide is used according to label directions in the exporting country, and that such residues will not be a concern to human health. This quantity is then legally established as an MRL on the corresponding imported commodity. An MRL applies to the identified raw agricultural food commodity as well as to any processed food product that contains it, except where separate MRLs are specified for the raw agricultural commodity and a processed product made from it.

Consultation on the proposed MRLs for flubendiamide is being conducted via this document (see Next Steps). A summary of the field trial data used to support the proposed MRLs can be found in Appendix I.

To comply with Canada's international trade obligations, consultation on the proposed MRL is also being conducted internationally by notifying the World Trade Organization, as coordinated by Canada's Notification Authority and Enquiry Point.

The proposed MRLs, to be added to the MRLs already established for flubendiamide, are as follows.

Table 1 Proposed Maximum Residue Limits for Flubendiamide

Common Name	Residue Definition	MRL (ppm)[1]	Food Commodity
Flubendiamide	N^2-[1,1-dimethyl-2-(methylsulfonyl)ethyl]-3-iodo-N^1-[2-methyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]phenyl]-1,2-benzenedicarboxamide	50	Tea (dried leaves)
		30	Turnip greens
		5.0	Sorghum, sunflower seeds
		2.0	Edible-podded soybeans, globe artichokes
		1.5	Low-growing berries (Crop Subgroup 13-07G, except cranberry), undelinted cotton seeds
		1.0	Dried shelled pea and bean (except soybean) (Crop Subgroup 6C)

Common Name	Residue Definition	MRL (ppm)[1]	Food Commodity
		0.5	Edible-podded legume vegetables (Crop Subgroup 6A, except edible-podded soybeans)
		0.4	Dry soybeans
		0.3	Sugarcane cane
		0.05	Succulent shelled pea and bean (Crop Subgroup 6B)
		0.03	Peanut oil (refined)
		0.02	Peanuts

[1] ppm = parts per million

MRLs are proposed for each commodity included in the listed crop groupings in accordance with the Residue Chemistry Crop Groups webpage in the Pesticides and Pest Management section of Health Canada's website.

MRLs established in Canada may be found using the Maximum Residue Limit Database on the Maximum Residue Limits for Pesticides webpage. The database allows users to search for established MRLs, regulated under the *Pest Control Products Act*, both for pesticides or for food commodities.

International Situation and Trade Implications

Table 2 compares the MRLs proposed for flubendiamide in Canada with corresponding American tolerances and Codex MRLs[1]. American tolerances are listed in the Electronic Code of Federal Regulations, 40 CFR Part 180, by pesticide. A listing of established Codex MRLs is available on the Codex Alimentarius Pesticide Index webpage, by pesticide or commodity.

[1] The Codex Alimentarius Commission is an international organization under the auspices of the United Nations that develops international food standards, including MRLs.

Table 2 Comparison of Canadian MRLs, American Tolerances and Codex MRLs (where different)

Food Commodity	Proposed Canadian MRL (ppm)	American Tolerance (ppm)	Codex MRL (ppm)
Turnip greens	30	25	Not established
Sorghum	5.0	5.0	Not established
Sunflower seeds	5.0	5.0	Not established
Edible-podded soybeans	2.0	0.5 (Vegetable, legume, edible podded, subgroup 6A)	2.0 (Legume vegetables)
Globe artichokes	2.0	1.6	Not established
Low growing berries (Crop Subgroup 13-07G, except cranberry)	1.5	1.5	Not established
Undelinted cotton seeds	1.5	0.90	1.5
Dried shelled pea and bean (except soybean) (Crop Subgroup 6C)	1.0	0.6	1.0 (Pulses)
Edible-podded legume vegetables (Crop Subgroup 6A, except edible-podded soybeans)	0.5	0.5	2.0 (Legume vegetables)
Dry soybeans	0.4	0.25	1.0 (Pulses)
Sugarcane cane	0.3	0.3	Not established
Succulent shelled pea and bean (Crop Subgroup 6B)	0.05	0.05	2.0 (Legume vegetables)
Peanuts	0.03	0.03	Not established
Peanut oil (refined)	0.02	0.02	Not established

Next Steps

The PMRA invites the public to submit written comments on the proposed MRLs for flubendiamide up to 75 days from the date of publication of this document. Please forward your comments to Publications (see the contact information on the cover page of this document). The PMRA will consider all comments received before making a final decision on the proposed MRLs. Comments received will be addressed in a separate document linked to this PMRL. The established MRLs will be legally in effect as of the date that they are entered into the Maximum Residue Limit Database.

Appendix I

Summary of Field Trial Data Used to Support the Proposed Maximum Residue Limits

Residue data for flubendiamide in various crops were submitted to support the maximum residue limits on imported undelinted cotton seeds, dry soybeans, edible-podded soybeans, edible-podded legume vegetables (Crop Subgroup 6A, except edible-podded soybeans), succulent shelled pea and bean (Crop Subgroup 6B), dried shelled pea and bean (except soybean) (Crop Subgroup 6C), globe artichokes, low-growing berries (Crop Subgroup 13-07G, except cranberry), peanuts, peanut oil (refined), sorghum, sugarcane cane, sunflower seeds, turnip greens and tea (dried leaves). In addition, processing studies in treated cotton, sugarcane, sunflower, peanut and soybean were reviewed to determine the potential for concentration of residues of flubendiamide into processed commodities.

Maximum Residue Limit(s)

The recommendation for maximum residue limits (MRLs) for flubendiamide was based upon the residues observed in crop commodities treated according to label directions or to exaggerated rates in the exporting country, and the guidance provided in the OECD MRL Calculator.
Table A1 summarizes the residue data used to calculate the proposed MRLs for imported cotton, soybean, edible podded legume vegetables (Crop Subgroup 6A), succulent shelled pea and bean (Crop Subgroup 6B), dried pea and bean (Crop Subgroup 6C), globe artichoke, low-growing berries (Crop Subgroup 13-07G, except cranberry), peanut, sorghum, sugarcane cane, sunflower seed, turnip greens and tea leaves.

Table A1 Summary of Field Trial and Processing Data Used to Support MRLs

Commodity	ApplicationMethod/ Total Application Rate (g a.i./ha)[1]	Preharvest Interval (days)	Lowest Average Field Trial Residues (ppm)	Highest Average Field Trial Residues (ppm)	Experimental Processing Factor
Tea (dried leaves)	Foliar / 400	7	11.3	29.1	Not required
Turnip greens	Foliar / 250–256	1	4.19	15.3	Not required
Sorghum	Foliar / 419–427	13 – 15	0.994	3.57	Not required
Sunflower seeds	Foliar / 416–432	14	0.021	2.01	Refined oil: 0.03×
Edible-podded soybeans	Foliar / 208–214	1	0.147	1.39	Not required
Globe artichokes	Foliar / 253	1	0.371	0.803	Not required
Low-growing berries (Crop Subgroup 13-07G, except cranberry)	Foliar / 251–255	1	0.156	0.725	Not required
Undelinted cotton seeds	Foliar / 313–322	26 – 28	<0.01	0.89	Refined oil: 0.03×

Commodity	ApplicationMethod/ Total Application Rate (g a.i./ha)[1]	Preharvest Interval (days)	Lowest Average Field Trial Residues (ppm)	Highest Average Field Trial Residues (ppm)	Experimental Processing Factor
Dried shelled pea and bean (except soybean) (Crop Subgroup 6C)	Foliar / 210–214	14 - 35	0.078	0.556	Not required
Edible-podded legume vegetables (Crop Subgroup 6A, except edible-podded soybeans)	Foliar / 211–214	1	0.136	0.208	Not required
Dry soybeans	Foliar / 208–216	13 - 24	<0.01	0.272	Refined oil and soymilk: 0.04×, Defatted flour: 0.10×
Sugarcane cane	Foliar / 414–432	13 – 14	0.01	0.206	Refined sugar: 0.02×, Molasses: 0.19×
Succulent shelled pea and bean (Crop Subgroup 6B)	Foliar / 208–217	1 – 3	<0.01	0.025	Not required
Peanuts	Foliar / 416–427	3	0.01	0.012	Peanut butter: 1.4×, Roasted peanut: 1.7×, Refined oil: 2.1×

[1] g a.i./ha = grams of active ingredient per hectare

Following the review of all available data, MRLs as proposed in Table 1 are recommended to cover residues of flubendiamide. Residues of flubendiamide in these imported crop commodities at the proposed MRLs will not pose an unacceptable risk to any segment of the population, including infants, children, adults and seniors.